

Large States. Changing the federal program at this stage would have particularly adverse effects on some large states. While the needs method of distributing annual construction funds was intended to maintain uniform progress towards system completion, it has not worked out that way in practice because of the disproportionate complexity involved in completing a large system. States with the largest Interstate mileage allotments tend to be those with the most work still to be done. California and Florida, first and sixth in the nation in terms of Interstate mileage, rank first and fifth in terms of costs to complete the system. Texas, Florida, and Louisiana did not even complete the full design of their route systems until the early 1970s, in part because additional mileage was designated in 1968. Thus, they still need to build \$2.7 billion in rural roads of national importance. Similarly, states with large metropolitan areas have had to spend more time in the design and public participation process to minimize adverse environmental effects of urban projects. For example, having only just completed the environmental impact process, Maryland and New York recently received design approval to move towards the construction of \$2.4 billion in local routes.

States That Completed Nationally Important Routes First. States that acted in the national interest by building routes of national importance first, before turning to locally oriented Interstate roads, would suffer disproportionately if the Interstate completion plan was revised to include national routes only. For example, the state of Georgia would lose funding for I-420 in metropolitan Atlanta under this plan. Had Georgia completed I-420 before turning to its Interstate through-routes, such funding would not be jeopardized. By contrast, the neighboring state of Florida completed most of its urban routes many years ago, and would gain additional federal funding because the large number of nationally important routes still to be built in Florida would boost its share of completion costs.

Toll Roads. When the 1956 act was passed, 5,200 miles of toll roads were already in existence along alignments that were substantially the same as planned Interstate routes. Rather than build entirely new, duplicative roads, the Interstate program incorporated some of these existing roads into the system, and made them eligible for federal funds to bring them up to Interstate standards by adding more lanes and upgrading other features. In exchange, the toll road authorities agreed to apply the toll revenues to the retirement of outstanding construction funds, and once these were retired, to make the roads free. The Kentucky Turnpike is an example of a toll road that has become free by this process.

Several other toll and state-built roads have applied for upgrading projects as allowed under the Interstate program. If such routes were made

ineligible for new construction funding, these states would be at a disadvantage financially. This problem would be most severe under the Minimum System option, which would shift all upgrading work into the reconstruction program. It would be reduced somewhat under the Intermediate System, which would continue to finance as new construction any lane additions needed to meet Interstate standards.

At present, the costs of upgrading toll and state-built roads are included among the costs of system completion as shown in Table 5 in Chapter II. If, as part of the redefinition of the new construction program, these projects were shifted to the reconstruction program, then the states that built these roads could argue that they have been shortchanged. At present, when upgrading of a toll road is financed as new construction, a state with toll roads to upgrade receives funds that it would not otherwise have been allotted. As part of the reconstruction program, however, the apportionment of funds would not increase for a state with toll roads. As a result, states that anticipated the travel needs of the Interstate program by building such roads before the Interstate program began would end up with relatively little federal support.

States Whose Federal Apportionments Have Lapsed. Under the 1978 highway act, apportioned Interstate funds were made available to states for only two years, rather than the four years previously allowed. Funds not expended by states within two years now revert to a pool for use on ready-to-go projects in other states. Assuming the program continues unchanged, the states whose funds were transferred to other states would ultimately recover their funds. As the other states complete their projects, the states that did not use their funds at the first opportunity would receive an increased apportionment reflecting their increased share of the cost to complete the system.

To date, 14 states and Washington, D. C., have deposited \$2.4 billion into the fund, with the largest amounts from Maryland, Massachusetts, New Jersey, Pennsylvania, and Washington, D. C. <sup>6</sup>/ In all five, funds lapsed because of lengthy environmental disputes over urban projects--projects that would be deleted under the Minimum and Intermediate System options.

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6. The other nine states are Arizona, Illinois, Louisiana, Maine, Minnesota, New Hampshire, Ohio, Rhode Island, and Washington.

## National Defense Considerations

One important aspect of an interconnected, national Interstate System is its contribution to national defense preparedness. The Interstate System was created partly in response to the post-World War II recommendation that a system of connected, interstate highways be constructed during peacetime to meet essential national defense requirements. Today, Interstate highways are a crucial component of the nation's defense transportation system. Whether used to move material to ports, troops to airports, or goods to munitions factories, Interstate highways would be heavily used for defense purposes in times of war, just as primary routes played a major role in World War II. Completion of many of the gap sections in the Interstate System would enhance the effectiveness of the system during a military emergency.

In a 1981 study, the Military Traffic Management Command of the Department of Defense identified unbuilt route segments that might have defense significance.<sup>7/</sup> Of the total 1,575 miles of Interstate routes on which construction has not begun, the study reported over two-thirds, more than 1,000 miles, to be of importance to defense interests. The majority of these roads--about two-thirds--were routes of national significance; thus, most would be included under even the most restrictive option, the Minimum System.

Gaps in beltways designated to be of military significance account for about \$2 billion of the routes to be dropped under the Minimum System option, and about \$1 billion of the segments dropped under the Intermediate System (all figures in 1979 dollars). While elimination of these routes could affect certain possible defense concerns, keeping the overall system in

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7. Department of Defense, Military Traffic Management Command, Interstate Completion Study, Working Paper (September 1981). The criteria used to assess military significance could be used to describe virtually any route on the system. The criteria were: strategic importance, serving transportation centers, serving defense installations and industries, serving Civil Defense, support of industry, support of agriculture, serving Interstate traffic, service through and around cities, clearance requirements, and defense traffic density patterns and trends.

repair is also important to defense.<sup>8/</sup> Thus, it is not clear that there would be any net reduction in the Interstate System's contribution to defense if program priorities were changed according to the two alternatives in this report.

### Completion Schedule

Six years after the Interstate System's scheduled completion date of 1972, the Surface Transportation Assistance Act of 1978 established deadlines to ensure that the system would be completed by 1990. It set time limits for decisionmaking on controversial segments, accelerated the process under which states could withdraw unbuilt, nonessential segments from the system, and authorized additional funds for Interstate completion.<sup>9/</sup> Despite these changes, however, the system cannot be completed until the mid-1990s at the earliest at the currently authorized spending level. While details of the schedule vary according to what is assumed about local route withdrawals, the number of environmental projects ultimately to be included in the completion plan, and the rate of inflation, completion by the 1990 deadline is well beyond reach of current authorizations. Indeed, if the Congress were to reduce current authorizations, then spending levels could prove to be insufficient to offset the rate of inflation, and completion costs would continue to rise each year. Similarly, if inflation increased at an annual rate of 13 percent, then the costs of the Interstate system would rise more rapidly than they could be offset by finishing projects that can be financed at current authorization levels, thereby making completion unattainable by any date.

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8. In fact, the Department of Defense has suggested that highway maintenance be given a high priority in the federal highway program. See Military Traffic Management Command, An Analysis of the Highways for National Defense Program (May 1981).
  9. The act establishes that all routes requiring an Environmental Impact Statement must have it submitted by September 30, 1983. Similarly, if a route is to be withdrawn from the system, an "overall concept" of substitute projects must be submitted to the Secretary of Transportation by September 30, 1983. The Secretary is prohibited from approving any substitute projects after that date. Finally, all routes must be under construction, or under contract for construction, by September 30, 1986. Any route that fails to meet these deadlines must be removed from the Interstate System by the Secretary, and funding of substitute projects is cancelled.

By focusing on the essential parts of an interconnected, national road system, both the Minimum and the Intermediate System options would reduce the cost of completing the system, thereby making it more likely that the necessary tax revenues could be raised to complete the system as scheduled.



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## CHAPTER IV. INCREASES IN HIGHWAY USER TAXES

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The three options discussed in this report could help to shift Interstate program priorities so that both a national road network could be completed and all Interstate routes properly repaired. Even with changes in program emphasis, however, increased financing would be required as well to achieve these goals. As now funded, continuation of present policies would neither complete the currently planned system nor allow adequate funds for repairs. The current annual authorization level of \$4.4 billion could complete the Minimum System and fund adequate repairs, but its strict conception of system completion might be extremely difficult for many states to accept. The Intermediate System, which attempts to balance these concerns, would require additional financing for completion and repairs, particularly if funds were devoted to reconstruction as well.

This chapter explores two financing changes that could help the Interstate program meet programmatic and budgetary demands:

- o Increase highway user taxes to pay for all the options described in the preceding chapter. This method would maintain the present 90/10 federal financing share for new construction, repair, and reconstruction activities.
- o Reduce the federal matching share for repairs and reconstruction. This approach would also require some increase in highway user taxes to finance one of the alternatives discussed earlier. But because of the assumed lower level of federal cost sharing, the necessary tax increases would be smaller.

### RAISE HIGHWAY USER TAXES BUT MAINTAIN FEDERAL 90 PERCENT SHARE OF COSTS

Meeting the high costs of the Interstate program would require increases in highway user taxes. Tax increases alone, however, would not provide a feasible solution to the Interstate System's financial problem, because of the enormous amounts needed. To finance the Current Program option, as defined in the preceding chapter, would require a massive increase in highway user taxes--from the current 4 cents per gallon tax on

motor fuels to over 9 cents per gallon--in order to raise the necessary additional revenues.

This is a large financial requirement, especially when compared to proposals now being discussed. Secretary of Transportation Drew Lewis recently proposed increasing the motor fuels tax by 5 cents per gallon, of which 4 cents would be for all highway programs (the other cent would be allocated to mass transit). Only a proportion of the revenue from the 4 cents increase would go to the Interstate Highway program, however. Thus, the annual costs of the current Interstate program would still exceed the resources of the much expanded Highway Trust Fund proposed by Secretary Lewis, even if financing was provided for only half of all currently eligible reconstruction projects.

The financial requirements of the other program options--the Minimum and Intermediate Systems--are less demanding. By shifting more projects from new construction to reconstruction, these options reduce the Interstate's completion costs (again assuming that only half of all eligible reconstruction projects are financed). As a result, an increase in the motor fuels tax of 3.5 cents per gallon--to a total of 7.5 cents--would finance the Minimum System and an increase of 4.1 cents per gallon--to a total of 8.1 cents--would pay for the Intermediate System.

#### REDUCING THE FEDERAL MATCHING SHARE

As the above estimates of tax increases indicate, the additional taxes needed to complete the Interstate System would be sizable, even if more projects were shifted from new construction to reconstruction and only half of the latter receive financing. Although the Congress could delay increases in highway user taxes by continuing to defer repair and reconstruction projects, such an approach would not necessarily channel program resources to the projects of greatest national interest, nor would it necessarily yield reductions in program costs in the long run.

An additional change that could help to achieve a long-run resolution of the financial problems of the Interstate program would be to reduce the current 90 percent federal matching share for reconstruction and repairs. Not only would this help to relieve the financial pressures now confronting the program; it would also adjust program incentives to reflect the national scope of the system, for which routes are almost all completed.

As noted earlier, when federal funds for construction are provided on a 90/10 matching basis, the impact on state economies of each program dollar



spent may actually exceed the 10 cents of state funds expended. Under these conditions, states might seek as many projects as possible, possibly without regard for the transportation needs they might serve.

Generous federal incentives of this sort might have been ideal for encouraging the states to build their new Interstate routes quickly and in compliance with federal needs and standards. The expansionary incentive implicit in this matching arrangement was not a serious problem for new routes, which by and large were limited by the system plan established in legislation at the start of the program (although mileage has been added several times in subsequent legislation).

As reconstruction and repairs have become the dominant program costs for the next decade, however, the 90/10 matching provisions might be inappropriate for these activities. Repair and reconstruction programs are inherently open-ended, particularly in the case of urban freeways. Environmental, safety, and aesthetic features of these freeways are frequently matters of intense local concern. Most major repairs or reconstruction are not simply a matter of replacing worn-out roads, but simultaneously improving them to meet the particular needs of the sites.

While many improvements of this sort are unquestionably desirable, the availability of 90 percent in federal funding could distort the incentives that go into planning these improvements. The large amount of federal money flowing into the area could outweigh the balancing of local costs and benefits. This distortion could be lessened by reducing the federal percentage for reconstruction projects and, perhaps, repair projects as well. This approach would continue to reflect a federal interest in reconstruction, but it would dampen the expansionary influence embodied in current federal financing provisions.

Federal funding might be more closely aligned with federal priorities by enacting different matching ratios, depending upon the extent of national interest in various program categories. Completion of gaps in the interconnected, national system of roads has important consequences for interstate commerce, travel, and national defense. For this purpose, CBO has assumed that the federal government would continue to finance 90 percent of the cost of new construction, but would reduce its share of repair costs to 75 percent and of reconstruction expenses to 50 percent. Further, CBO assumed for all other Interstate projects that all repair projects would be built at the new 75 percent rate, and that each state's apportionment for reconstruction would be fully expended at the new 50 percent rate.

These illustrative matching ratios are arbitrary, and necessarily so, since the exact balance of local and federal interests in any particular project would be impossible to define systematically. For example, the need to widen congested urban Interstate segments might be clearly attributable to local commuter traffic, but there might also be significant benefits for nonlocal traffic as well. Similarly, erection of noise barriers clearly would protect local residents, although the source of the noise might come from nonlocal trucks. Virtually all reconstruction and repair projects involve some mix of national and local responsibilities and benefits. The matching ratios used here illustrate how ratios could be adjusted to reflect varying degrees of national interest. This approach, combined with the various program options discussed in Chapter III, could yield an Interstate program more tightly focused on national priorities and more responsive to repair requirements. By financing only half of all currently envisioned reconstruction needs and by reducing the federal cost share to 50 percent for reconstruction and 75 percent for repairs, additional federal support of about \$4.3 billion a year would be needed to continue Current Programs. Under the same assumptions, \$1.4 billion more would be needed annually to support the Minimum System option, and an additional \$2.3 billion annually for the Intermediate System (see Table 8).

TABLE 8. ADDITIONAL ANNUAL AUTHORIZATIONS NEEDED UNDER FINANCING OPTIONS AND PROGRAM ALTERNATIVES (Federal funds needed in addition to \$4.4 billion now authorized, in billions of 1979 dollars)

Program Alternative	Increased Highway Authorizations Under Current 90/10 Matching Ratio	Increased Highway Authorizations with Reduced Federal Matching Share <sup>a</sup>
Current Programs	5.8	4.3
Minimum System	3.9	1.4
Intermediate System	4.5	2.3

- a. This financing option assumes the following federal shares in each category: 90 percent for new construction; 75 percent for repairs; and 50 percent for reconstruction.

The increases in motor fuels taxes needed to support these programs would be substantially smaller than if the federal matching provisions were reduced, as suggested above. With the assumed reductions in federal share, continuation of Current Programs would require an increase of 3.9 cents per gallon in the motor fuels tax. Enactment of the Intermediate System would require much less--an increase of about 2.1 cents per gallon--and the Minimum System could be financed by a tax increase of only 1.3 cent per gallon (see Table 9).

TABLE 9. INCREASE IN MOTOR FUELS TAXES NEEDED UNDER FINANCING OPTIONS AND PROGRAM ALTERNATIVES (Motor fuel tax needed in addition to 4 cents per gallon now levied, in cents per gallon)

Program Alternative	Increased Highway User Taxes Under Current 90/10 Matching Ratio	Increased Highway User Taxes With Reduced Federal Matching Share <u>a/</u>
Current Programs	5.3	3.9
Minimum System	3.5	1.3
Intermediate System	4.1	2.1

- a. This financing option assumes the following federal shares in each category: 90 percent for new construction; 75 percent for repairs; and 50 percent for reconstruction.



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## CHAPTER V. TRANSFER NONINTERSTATE HIGHWAY PROGRAMS TO THE STATES

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Even if the Interstate program was redesigned to place greater emphasis on completion of nationally important routes and on more repairs and less new construction, these activities would require a higher level of funding than the \$4.4 billion currently authorized for fiscal year 1983. Depending upon the extent and terms of federal support for upgrading projects and other work eligible for reconstruction funds, the increased financing requirements could be substantial--30 to 130 percent or more above current authorizations.

### REASONS FOR TRANSFER OF OTHER PROGRAMS TO THE STATES

These massive demands for additional Interstate funds come at a time of severe federal budgetary constraints and an emerging emphasis on federalism. Because the Interstate program is authorized at the same time as more than 30 other federal highway programs, and because the Highway Trust Fund finances many of these activities, any consideration of major changes in the Interstate program or its financing would inevitably induce similar scrutiny of other highway programs.

The unique national scope of the Interstate System creates an exceptional federal interest in this program compared to many other highway activities. As the nation reconsiders the appropriate degree of federal involvement in various programs, one treatment for highway programs would be to shift federal resources from those of lower national importance into the Interstate System.

More than 30 different federal highway programs are now authorized, with most of the general purpose ones financed from the Highway Trust Fund. The largest programs are the primary road system (\$1.5 billion in fiscal year 1982), the secondary system (\$400 million), the urban system (\$800 million), and the bridge replacement program (\$900 million). All other trust fund authorizations together totaled \$813 million in fiscal year 1982. In addition, about \$800 million in general revenues were authorized for highways in 1982, although only about \$500 million of this was appropriated.

The extent of federal interest in different highway programs varies and, in some cases, has shifted significantly over time. Some of the programs have become essentially revenue-sharing ones. (The structure and evolution of various major highway programs is described in Appendix B.) As ways are sought to finance the completion and repair of the Interstate System, the federal government could transfer to the states responsibility for those highway programs in which there is less national interest, and use the savings for Interstate routes.

### OPTIONS FOR TRANSFERRING PROGRAMS TO THE STATES AND LOCALITIES

Although federal, state, and local interests in roads overlap substantially, there are significant differences in the extent of national interest in various highway programs. From a transportation viewpoint, roads that link activities in different states and contribute to interstate commerce are of prime national importance, while roads that serve local traffic needs or that link localities to the national network are of lesser national importance. But there are other aspects to national interest as well. For example, some safety-related programs produce research or guidance that benefits the nation generally, and others provide some minimum threshold safety features that permit motorists to travel anywhere in the country without fear of extraordinary local hazards. The relative national priorities of specific safety programs can be argued, but there appear to be clear national interests in this area. Similarly, roads promoting resource development or recreation contribute to the national well-being, although their local importance is equally clear.

While the division among them is not precise, three general groups of non-Interstate highways are currently authorized and financed by the Highway Trust Fund (see Table 10):

- o Programs that provide major intercity arteries,
- o Revenue-sharing activities, and
- o Safety and other programs.

#### Intercity Arteries Programs

Programs that provide intercity arteries include the primary system and that part of the bridge replacement program that applies to the primary

TABLE 10. TYPES OF NONINTERSTATE FEDERAL HIGHWAY PROGRAMS FINANCED BY THE HIGHWAY TRUST FUND

Program	Fiscal Year 1982 Authorizations (In thousands of dollars)
Programs that Provide Intercity Arteries	
Primary system	1,500
Part of bridge construction and reconstruction applied to primary routes <u>a/</u>	400
Subtotal, intercity arteries	<u>1,900</u>
Revenue-Sharing Activities	
Secondary system	400
Urban system	800
Part of bridge replacement and reconstruction applied to nonprimary routes	500
Subtotal, revenue sharing	<u>1,700</u>
Safety and Other Specialized Programs	
Rail-highway crossings	240
Pavement marking and hazard removal	265
Categorical safety programs	159
Emergency relief	100
Economic growth centers	50
Forest and other recreational roads	84
Subtotal, other programs	<u>898</u>
Total	4,498

- a. Estimate based on proportion of fiscal years 1979-1981 Bridge Construction and Reconstruction Program funds that were obligated to bridges on the Interstate and Primary systems.

system. These two federal programs authorized about \$1.9 billion in fiscal year 1982 on the primary system. Because of the relatively strong national interest in these programs, it is assumed that federal support for them will be continued.

Primary routes in rural areas carry twice as much interstate traffic as the Interstate System, and primary system routes are defined in legislation to comprise an "adequate system of connected main roads . . . ." While some routes on the primary system may not be major intercity arteries, their percentage of the total system cannot be estimated because of a lack of data. For simplicity in this discussion, therefore, all primary routes are considered major intercity arteries.

#### Revenue-Sharing Programs

The need for federal support for the other two types of highway programs depicted in Table 10 is less clear. The secondary and urban systems and the parts of the bridge replacement program outside the primary system are essentially revenue-sharing programs. Although the secondary system originally consisted of farm-to-market routes, it grew to include almost any nonprimary route, and it now encompasses 93 percent of all major rural roads in the country. Similarly, the urban system can include many routes not included on another federally aided system. Federal funding for the secondary and urban programs is only a small part of their total costs, with the states and localities spending the greater share. Federal criteria delimiting the extent of these systems are generally loose. While discontinuation of federal support for these programs would impose a burden on state and county finances, such an action would have only relatively minor effects on the ability of people and goods to move throughout the nation. Accordingly, about \$1.7 billion in revenues used to fund these programs could be shifted to other, more nationally important programs should the Congress choose to terminate these revenue-sharing programs.

Such a transfer of costs to the states and localities could substantially alleviate the need to increase highway user taxes. For example, if the Intermediate System was adopted and financing was provided for only half of all reconstruction projects, then the increase in the motor fuels tax needed to support the program would fall to 1.9 cents per gallon, down 2.2 cents from the tax that would be needed if the revenue-sharing programs were retained. Under the Minimum System, the increase needed would be 1.3 cents. Similarly, the tax increases required under the Current Program option and financing alternatives could also be reduced by 2.2 cents per gallon, resulting in the net tax increases shown in Table 11.



TABLE 11. MOTOR FUELS TAX INCREASES REQUIRED IF FEDERAL HIGHWAY AID IS ENDED FOR REVENUE-SHARING TYPE PROGRAMS (In cents per gallon of increase)

Program Option <u>a/</u>	Increased Highway User Taxes Under Current 90/10 Matching Ratio	Increased Highway User Taxes with Reduced Federal Matching Share <u>b/</u>
Current Programs	3.1	1.7
Minimum System	1.3	<u>c/</u>
Intermediate System	1.9	<u>c/</u>

- a. Options are described in Chapter III.
- b. Options are described in Chapter IV.
- c. No tax increase required.

#### Safety and Other Programs

Although there is some federal interest in safety and other categorical programs, the need for national support appears less compelling than it is for roads that interconnect the various states and that carry significant components of intercity travel. If the Congress should choose to eliminate highway safety and other categorical programs and concentrate federal highway aid exclusively on the Interstate and primary systems, this would free about \$3.7 billion a year compared to current policy--the equivalent of a tax on motor fuel of around 3.4 cents per gallon. This change would yield more than enough revenue to finance the Minimum System and almost enough to finance the Intermediate System and would make continuation of Current Programs viable if the tax on motor fuels were increased by about 2 cents per gallon (see Table 12).

Any large-scale transfer of highway programs to the states would reverse the trend of past years, during which the scope of federal highway programs has increased. The options discussed in this paper, however, are

TABLE 12. MOTOR FUELS TAX INCREASES REQUIRED IF FEDERAL HIGHWAY AID IS FOCUSED EXCLUSIVELY ON INTERSTATE AND PRIMARY SYSTEMS (In cents per gallon of increase)

Program Option <u>a/</u>	Increased Highway User Taxes Under Current 90/10 Matching Ratio	Increased Highway User Taxes with Reduced Federal Matching Share <u>b/</u>
Current Programs	1.6	0.2
Minimum System	<u>c/</u>	<u>c/</u>
Intermediate System	0.4	<u>c/</u>

- a. Options are described in Chapter III.
- b. Options are described in Chapter IV.
- c. No tax increase required.

less drastic than the new federalism outlined by President Reagan, under which the federal government would retain only the Interstate program. These alternatives show that substantial relief from the current financial pressures facing the Interstate Highway System could be achieved if funding for less nationally important highway programs was shifted to this purpose.

If the Congress refocused federal highway aid exclusively on the Interstate and primary systems, it might still need to increase highway user taxes, particularly if adequate revenue sources were transferred to the states along with any transferred programs. Thus any estimated reductions in the amount by which highway user taxes would need to be raised to support various Interstate programs might not be achieved for several years. Transferring both the programs and the associated revenues would substantially alleviate any financial burdens on the states. Indeed, because these funds would not be tied to specialized programs, the states would gain flexibility that would permit them to spend more on projects that are of high priority to them. At the same time, this new latitude could create some organizational stress, as various factions pressure state agencies and legislatures to spend these funds on their favored projects.

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## APPENDIXES

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